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Competence-based teacher education: Illusion or reality? An assessment of the implementation status in Flanders from teachers' and students' points of view

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ABSTRACT

Since 1998, the Flanders' educational government in Belgium has been urging teacher education institutions by decree to implement competences in teacher training programs. Since then, years have gone by, and institutions have acted in order to achieve the competence-based goals. However, have they succeeded in implementing them? This is the research question that is central to the current study. An online survey inquiry was set up in eight elementary teacher education institutions using two questionnaires; one for final year elementary institution pre-service teachers, who were about to graduate at the time of completing the questionnaire ($N = 218$), the other for teacher trainers throughout the elementary teacher training program ($N = 51$). Ten years after the decree was issued, results show that competence-based education has become a reality in terms of its implementation. However, the process has not yet come to an end. Whereas some competences are clearly present in the institutions' policies and practices (e.g. teacher as guide to learning and development, teacher as subject expert), others are poorly represented (e.g. teacher as partner of parents, external parties and as a member of the educational community). Moreover, teacher trainers tend to take four different approaches to the implementation of competences (1) during internship, (2) through the institution's policy and program planning, (3) by means of their integration in both theoretical and practical components of the curriculum and finally, (4) a lack of implementation because the competences are considered insufficiently applicable by the teacher trainers. In particular, more experienced and subject expert teacher trainers tend to adopt the final approach more often than do younger colleagues and pedagogues. Student teachers' results, on the other hand, suggest important differences between institutions concerning their understanding of competences and the integration of these competences in the curriculum; suggesting different paces of adaptation between teacher education institutions. Moreover, even within schools, the trajectory towards implementation is not always clear for all members of the teaching team, nor for the students of most teacher education institutions. Consequently, there is still important work to be done in order for successful competence-based change to occur.

1. Introduction

Competence-based education has gained in popularity in recent years. Many countries, educational institutions and educational authorities are aiming to install what is called 'competence-based' education (Spencer & Spencer, 1993; Van Dongen, 2003; Weinert, 2001). The Flanders' Department of Education in Belgium is no exception. It has been urging institutions by decree to introduce competences throughout their teacher training programs since 1998 (Department of Education, 1998).

1.1. Competence-based education: a revival of interest

Competence-based approaches to (teacher) education are by no means new (Whitty & Willmott, 1991). Although the concept of 'competences' first made its appearance in 1890, a growing interest in competence-based education and training arose in the 1960s and 1970s as a result of various publications on competence-based organisational training and competence-based teacher education (CBTE) in the United States (Popham, 1984, 1986; Biemans, Nieuwenhuis, Poell, Mulder, & Wesselink, 2004). The post-World War II period was characterised by a rapidly accelerating pace of change. In changing times, unchanging schools are anomalous (Houston & Howsan, 1972). Extensive demands for curriculum reform, large investments of federal funds in curriculum development and dissatisfaction with teacher training were the features of

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the climate in which CBTE emerged (Tuxworth, 1989). Calls for relevance and, more forcefully, the demand for effectiveness and efficiency, or 'accountability' to the taxpayers, were predominant (Tuxworth, 1989; Houston & Howsan, 1972). The concept of competency-based instruction has emerged from the emphases on goal-orientation and individualization. Learning objectives – defined in behavioural and assessable terms – can be made explicit, by and for, the learner. The individual then can pursue learning activities and can develop performance skills or competencies in the process. Within the rationale of the CBTE movement, 'competency' indicates an emphasis on the 'ability to do', and is considered synonymous with performance skills. This is in contrast to the more traditional emphasis on the 'ability to demonstrate knowledge' (Houston & Howsan, 1972); although the importance of knowledge and understanding was never denied or diminished by CBTE proponents (Tuxworth, 1989). Back then, competence-based (teacher) education was based on a behaviourist model of training and learning and disappeared into the background when criticism of the simple disintegrative stimuli-response (S-R) thinking of behaviourism increased (Biemans et al., 2004). The traditional mind-body view drives the behaviourist model of action in which skills are thought to operate as habits to be acquired through repetition in the sense that 'practice makes perfect' (Tomlinson, 1995). In particular, the associated reductionists approach of 'objectifying competences to bits' (whereas the whole is more than the sum of the parts) has been an important critique (Tuxworth, 1989; Whitty & Willmott, 1991). Moreover, the installation of competency tests for teachers in entrance, but in particular, in exit examinations, prior to one's receiving a teaching credential have received much criticism for their norm-referenced, instead of the typical competency-based criterion-referenced approach (Popham, 1984, 1986). In the recent competence-based movement, a holistic approach is normatively put forward. Competence is regarded as the possession and development of integrated skills, knowledge, appropriate attitudes and experience for the successful performance of one's life roles (Taylor, Popham, 1984, 1986, in McNamara, 1992; Korthagen, 2004). It has been stated that: '*Competence-based education is creating opportunities for students and workers, close to their world of experience in a meaningful learning environment (preferable the professional practice) wherein the learner can develop integrated, performance-oriented* ***capabilities*** *to handle the problems in practice (…)* These capabilities consist of clusters of knowledge structures and also cognitive, interactive, affective and where necessary psychomotor *skills, and attitudes and values, which are conditional for carrying out tasks, solving problems and effectively functioning in a certain profession, organisation, position and role.*' (Wesselink, Lans, Mulder, & Biemans, 2003, p.3–5; Biemans et al., 2004). This definition encompasses intellectual, cognitive and attitudinal dimensions, as well as performance (Whitty & Willmott, 1991). Competences represent a potential for behaviour and not the behaviour itself. Whether competences are really put into practice or not depends on the circumstances (e.g. teaching practice, assessment, conversation, events, etc.) (Korthagen, 2004).

Renewed impulses under the influence of the growing importance of information, communication technology and globalisation, have made competence-based education again a leading paradigm for innovation, both at the system level and at the level of learning environments (Dochy & Nickmans, 2005). Two plausible reasons are advocated that explain the popularity of, and the urge towards, competence-based education. Firstly, developing competences sheds light on the positive goals of education and training. Transforming students into competent learners is obviously a more positive, prescient and progressive purpose, than the goal of the deficit model of education, which aims to remediate deficiencies in order to orient and select students. As such, competence-based education shifts the focus towards the strengths one has, instead of concentrating on one's deficiencies. Secondly, one expects that a competence-based education will bridge the gap between the demands of the economy and the job market and the (traditional) pedagogies of education (Wesselink et al., 2003; Biemans et al., 2004). More specifically, in the context of teacher education, benefits of competency-based approaches to education are: (1) the demystification of teacher education, (2) a clearer role for schools/colleges in the training process, (3) greater confidence of employers in what beginning teachers can do, and (4) clearer goals for students (Whitty & Willmott, 1991).

1.2. Competence-based teacher education in Flanders

The push towards competence-based education has been heard by educational government and politicians in Flanders (Belgium) and its ideas are widely advocated in (and forced upon) higher education and teacher education in particular. In 1996, consistent with changes in the UK (Cameron-Jones & O'Hara, 1995), a decree on the transformation of teacher education and professional training was promulgated, including an emphasis on the twin themes of required competence (and the possibilities for the reduction of the length of training due to former competence acquisition in other contexts/training (McNamara, 1992)), and of institution influence on student teachers' training (Cameron-Jones & O'Hara, 1995). In 1998, the decree describing the professional profiles and basic competences for teachers became a fact. Whereas the basic competences are considered as the minimum requirements for novice teachers at the conclusion of initial teacher training, the professional profiles describe the 'ideal teacher' or the targets for teachers to aim for as result of further professional development throughout their careers by means of growing, reflective experience and in-service training. From 1998 on, teacher education programs, comprising both theoretical and practical components, ought to be based on the professional profiles and basic competences for teachers described in the decree. However, details on how to translate, pursue, assess and achieve; in short: how to put these competences into practice(s) were not prescribed in the decree. Meeting these challenges has become related to the autonomy of each institution. As a consequence, interpretations and uses may be different across varying contexts, both within and across teacher education institutions, dependent on the approach to implementation. By means of self-assessment reports and the visits of external commissions allocated with the task of assessing the quality of education, institutions have to convincingly provide proof of their efforts to integrate the basic competences in their teacher training programs. Currently, Flanders does not have a tradition of national testing to assess students' learning outcomes, and therefore, no high stakes, such as certification, job security or salaries, are on the line.

In general, the descriptions of the professional profiles and contents of the basic competences for teachers are found in two lines of thought. On the one hand, the profiles and competences are associated with a widened and emancipated vision of the teaching profession. On the other hand, the profiles and competences relate to the constructivist theory of learning (De Corte, 2000; Van Petegem, 2002). The teacher is emancipated, which implies that s/he is a continuously evolving professional, who is critical about the self, others and society, who is a reflective practitioner eager to learn and who is able to make founded and responsible decisions within the classroom, the institution and the educational field (Department of Education, 2001). The constructivist theory of learning perceives the learner as an 'active partner' in the process of learning, assessment and instruction. Learning within this setting is essentially: (1) constructive, (2) cumulative, (3) self-regulated,

(4) goal-oriented, (5) situated, (6) collaborative, and (7) individually different (De Corte, 2000). Students are challenged to actively construct their knowledge and to become 'active learners' (Oxford, 1997; Perkins, 1991; Terwel, 1999; Vermunt, 1998). The object of learning ideally relates to authentic contexts, real-life situations and meaningful problems, all of which are job-related (Segers, Dochy, & Cascallar, 2003; Vermetten, Vermunt, & Lodewijks, 2002). The translation of both theories into the professional profiles and basic competences for teachers departs from Aeltermans' interactive model of teaching, developed for academic teacher education purposes (Aelterman, 1995). The model describes three clusters of responsibilities with regard to the teacher, who is considered to have good judgement, act correctly and make decisions that relate to (1) the learner(s) (pupils or students), (2) the institution and the educational community, and finally, (3) society. These three clusters of responsibilities are translated into 10 functional components of the teachers' job (see Table 1). For each functional component, the knowledge and skills a beginning teacher needs to be equipped with when starting to teach are described in greater detail in two parts: one that is common for all 'teachers', the other that is specific or related to the level of education for which student teachers are being trained. As such, the latter part describes the knowledge and skills related to the functional component, depending on the target group of students the trainee teachers' are being taught to teach. This we can distinguish between four groups, namely: (1) pre-primary education or kindergarten (ages: 3 to 6 years), (2) primary education (7–12 years), (3) secondary education – group 1 (13–15 years (or 18 years in vocational institutions)) and (4) secondary education – group 2 (and higher education) (16 years +). Besides the knowledge and skills defined for the ten functional components, ten attitudes are described that apply to all functional components. These are: the teacher strikes these attitudes throughout the different components of the teaching profession. This set of common and specific knowledge, and skills (described in ten functional components) and all-embracing attitudes for teachers are called the 'basic competences'. In terms of a formula, the basic competence(s) equal the sum of the functional component(s), while displaying (each of) the attitudes: $BC_i = FC_i + 10$ attitudes. These ten

Table 1
Overview of the 10 functional components and 10 attitudes for (beginning) teachers in Flanders' teacher education (decree of 1998), organised by cluster of responsibility (Aelterman, 1995).

Basic competences for teacher education BC = FC + (each of the) attitudes	
10 functional components for (beginning) teachers	10 attitudes
Responsibility for the learner	
01. The teacher as guide of learning and development processes Defining the initial situation and selecting learning goals Designing powerful learning environments Assessment for learning and of learning Meeting cultural diversity and special needs in learning	A1. Decisiveness The teacher dares to take a stand and acts on it in a responsible manner.
02. The teacher as educator Providing a positive climate Emancipating children Meeting diversity and (special) needs in emotion and relation Education in norms and values	A2. Relational orientation In his contacts with others the teacher is genuine, true and heartfelt.
03. The teacher as subject expert Being knowledgeable about and skilled in a domain(s) of expertise	A3. Critical reflection The teacher is prepared to question himself and the environment, and verifies the value of an opinion or event, the desirability and feasibility of learning goals, before taking a stand (making decisions and acting on them).
04. The teacher as organiser Classroom management Administrative work	A4. Eagerness to learn The teacher actively explores situations and initiatives to broaden and deepen his professionalism.
05. The teacher as innovator – the teacher as researcher Learning from experience and from collaboration with others Reflective practitioner Design-research/action-research/practice-based research	A5. Organisational skills The teacher wants to plan, coordinate and delegate his tasks in order to efficiently attain his goals.
Responsibility for the school and educational community	
06. The teacher as partner of the parents/carers Discrete and confidential about personal information Communication with (diversity of) parents	A6. Sense of collaboration The teacher is prepared to work at joint tasks collegially.
07. The teacher as member of a teaching team Consult and work together with other team members Discussing (own) approaches to teaching with colleagues	A7. Sense of responsibility The teacher feels responsible for his schools and engages to enhance a positive development with learners.
08. The teacher as partner of external parties Communicate and work together with parties that offer education-related support (e.g. to students or teachers)	A8. Creative orientation The teacher should be creative and innovative in dealing with situations.
09. The teacher as member of the educational community Participation in debate on teaching and education	A9. Flexibility The teacher easily adapts to changing circumstances.
Responsibility for society	
10. The teacher as culture participant Perception of and critical approach towards topical matters in different domains: political, economic, philosophical, esthetical, scientific and cultural.	A10. Orientation towards a correct and appropriate use of language and communication The teachers uses language correctly, appropriately, adaptively and respectfully dependent on the receiver and situation.

competences (commonly named after the functional components) embody the goals to be achieved by the teacher education institution and the prerequisites needed by beginning teachers in order to function as a full member of an institution's faculty. These competences should equip the beginning teacher to grow further at the job towards the professional profile in the decree due to experience or by means of training. An overview and description of the functional components and attitudes, together making up the basic competences (usually referred to with the name of the component), is given in Table 1.

1.3. Top-down innovations: pitfalls of imposed change

Although imposed change has a pejorative connotation, bottom-up changes fail to have a widespread impact on innovative practices. Fullan (2003) aptly states: 'Here is the paradox. You need ownership for fundamental change, but you cannot get it on a large-scale by relying on bottom-up strategies' (Fullan, 2003, p. 32). As such, a fragile balance between prescription (dependence) and autonomy (independence) needs to be established (Fullan, 2006). In Fullan's view (Fullan, 2003), teachers and educators should move from informed prescription to (un) informed professional judgement (and actions). Typically, for policy change in education to take effect in learners, various hierarchical levels need to go through the process of adaptation; a process of implementation that takes up to at least 10 years to be successful (Sabatier, 1986). In order for students to develop competences in teaching, the various levels that need to undergo transformation based on the professional profiles and the basic competences in the decree are represented in Fig. 1. The focus of the present study is whether the basic competences described in the decree are manifest in the program, methods and classroom practices of teacher trainers and are distinguishable to the target group – the student teachers.

In sum, since 1998, the basic competences are the goals that teacher education institutions need to attain to provide fully equipped, capable professionals for teaching in Flemish institutions. In the meantime, more than ten years have gone by. Today, we are in the process of assessing the degree of implementation of the basic competences as laid down in the decree, as they are put into practice in teacher education programs across a selection of teacher training institutions.

2. Procedure

When innovations in education are top-down and pushed by governmental decree, the question of implementation appears. The Department of Education conducted a study in 2000–2001 in order to evaluate the effectiveness of its most recent policies in Teacher Education, the basic competences being a case in point (Department of Education, 2001). Each institution providing teacher education training, both higher education colleges and universities, was required to provide information on the quality of their program(s), including the implementation of the basic competences, through a self-assessment report. In addition, each institute was paid a short one- or two-day visit by an independent, external evaluation commission. At each venue, some interviews were undertaken with the head of the teacher education department, and with program coordinators, teachers, students and mentors. The self-assessment reports, and findings from the visit, make up the institutions' evaluation report, which was written based on evaluations of 13 higher education institutions, 5 universities and 7 centres for adult education. These institutions provided the researchers with the core data for analyses, including information on more than 50 pre-service teacher training programs (Eisendrath, 2001). Themes (or exploratory variables) involved in the study were: the intake of students and their (changing) profiles, competency-based teacher education, practice-based training and internships, mentoring and

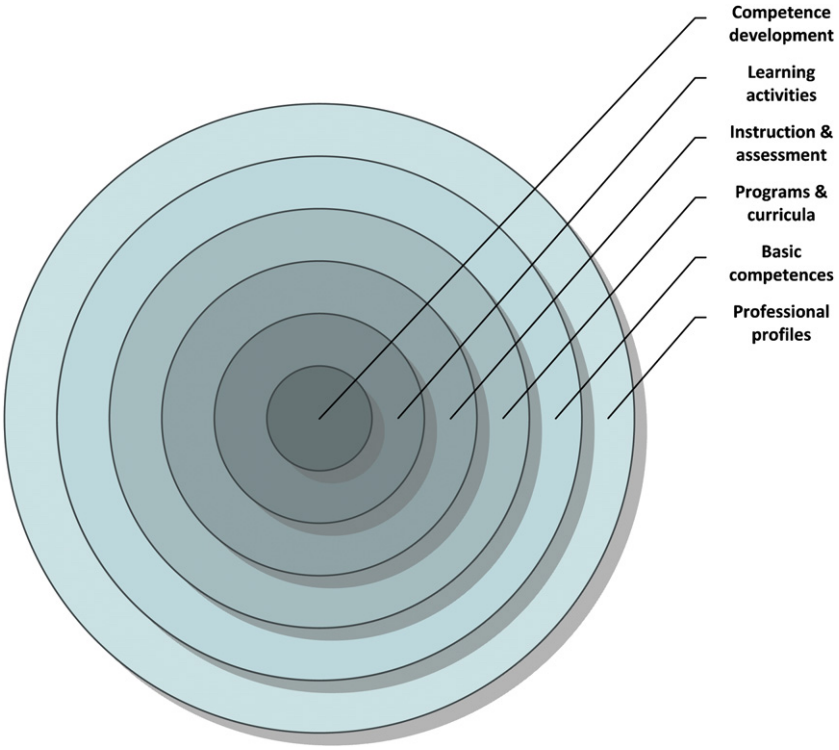

Fig. 1. Target figure of the different levels in the implementation process of the professional profiles and basic competences (based on the implementation model of educational change of Vandenberghe, (2004)).

professional development for beginning teachers. This qualitative research investigated the flow of information from the Ministry of Education to the institutions and probed the points of view of the various parties on the themes involved. Regarding the competency-based educational policy in Flanders, results show that the competences are perceived by teacher education institutions as goals to aim for rather than as standards that have to be achieved by the end of the teacher education process. Based on the report's recommendations, policies were formulated and amendments to the decree were proposed in 2003, though not endorsed. In 2007, however, supported by the advice of the Flemish Educational Board (VLOR), a revised version (with limited amendments) was put into force in 2007–2008. Revisions mainly concerned reformulations, additions or omissions of specific skills/knowledge within the functional components. For example, based on the (new) priorities in educational policy, more emphasis was placed on the use of ICT, the importance of language education for second-language and underprivileged learners and meeting (cultural) diversity in needs. The basic structure, with the same ten components and eight attitudes (A8 & A10 were integrated in the functional components, see Table 1), remained largely untouched. The present study was conducted in 2006–2007 and concerned the original decree of 1998.

Although the abovementioned study includes the implementation of the decree's basic competences in teacher education in terms of the themes under investigation, the current study, however, differs from the Department's study in several ways. Firstly, the present study uses first-hand data from the stakeholders within institutions, instead of second-hand information in evaluation reports on programs of an institution. As such, the present study allows for variation and diversity in the responses of individuals within institutions, which is usually not the case in reports that tend to describe the common grounds of a group, program or institution. The choice was made to set up a standardised survey investigation, which is mainly quantitative in nature and aims to achieve a broad overview and comprehensive insight into the practices of teacher competences in pre-service training. Secondly, the evaluation study undertaken by Eisendrath (2001) takes on a program's view on implementation. Research on educational change, however, convincingly shows us that 'ownership' by the members of that institute, and in particular by the teachers who teach courses in this program and by the students who experience learning through these courses and programs, is a prerequisite for successful change (Fullan, 2003). As such, it is expected that institutions which are more competence-based in their practices than others, demonstrate more 'ownership' among its stakeholders. Moreover, teacher thinking studies teach us that innovations are not automatically and thoughtlessly put into practice by teachers (Fullan, 2001; Fullan & Hargreaves, 1992; Hargreaves & Fullan, 1996). In fact, teacher concerns may hamper the implementation process. As such, teachers' perceptions of competences and the competence-based policy-making of Departments in teacher education are investigated. Hence, 'ownership' is made operational, both in the thoughts and opinions about competences, and in terms of its uses in the program, courses, instruction, assessment and internships in teacher training. These uses should not only be present and clear for teacher trainers. In addition, students should be able to perceive and distinguish them if student teachers' intentional competence development is the aim (Fullan, 2001). As a consequence, both teacher trainers' and student teachers' points of view are included. In addition, student perceptions do not always coincide with teachers' perceptions (Das, ElSabban, & Bener, 1996; Fisher, Alder, & Avasalu, 1998; Liow, Betts, & Kok Leong Lit, 1993). In addition, despite efforts to ensure anonymity, teachers may still be tempted to provide socially desirable answers in the responses to the questionnaires and portray the institution's situation better than it actually is. As such, the study of both perspectives also provides a measure to control for social desirability – and thus bias – in responses of teacher trainers. Moreover, to give a clear focus to the investigation, only elementary teacher training in higher education institutions was considered. This group was selected for reasons of size and representation purposes. This group of students is usually larger than the groups of student teachers in kindergarten education, with similar profiles of intake to the group of students studying to become secondary education teachers (which is commonly the largest group of pre-service students). However, this group does not have the disadvantage of fragmentation in terms of main subjects (e.g. Maths, languages, physics, science, etc.), which is typical in both secondary and academic teacher education programs and which may lead to different results in competence training dependent on disciplines or departmental implementations. Moreover, initial teacher training in higher education colleges is a three year program, and is responsible for the largest delivery of qualified teachers to schools. The choice was made to include only final-year students because they alone have had three-years of experience of elementary teacher training. If the institution has organised competence-based education, at least they should have noticed.

As a result, the study involved two similar questionnaires, one for the elementary institution teacher trainers and one for the third – or final – year elementary education student teachers, in order to incorporate multiple perspectives. Both questionnaires were administered online by the end of Spring Semester (before the examination period) in 2007 in order to reach as many institutions and respondents as possible. Because teacher education institutions are already involved in a great many (research) projects, and the daily duties of teaching and study take up a significant amount of time in teachers' and students' schedules, careful selection in the engagement of institutions in projects is necessary. Hence, the choice for the online-format was made in order to persuade institutions to participate in the study with a minimum of effort being required on their part – they simply had to forward the email with the link to the webpage containing the questionnaire to the mailing lists of their third year elementary teacher education students and the list of teacher trainers in the elementary school teacher education programs. The ease of use in gathering data electronically was a concomitant argument.

The question central to the research is 'to what extent (and how) have the basic competences of the decree been implemented in elementary institution teacher training?' Because institutions need to translate, pursue and assess the competences in practice, the question becomes: *'to what extent (and how) are competences translated, pursued and assessed in the program and the curricula of elementary teacher training?'*

2.1. Sample

Initially, twelve institutions of elementary teacher education agreed to cooperate in the study and to distribute the questionnaire to their teachers and final-year students. However, in some institutions only a few teachers (<4) or a few students (<9) responded[1]. Hence, for validity purposes, these subjects were omitted from the sample. In total, 51 teachers (in 8 institutions) and 218 students (in 9 institutions) responded to the questionnaire adequately, meaning that, on average, 6 teachers (from $N = 4$ to 11) and 24 students (from $N = 9$ to 46) represented the findings on the extent to which

[1] Originally, 61 teachers and 222 students responded to the questionnaires adequately. For validity purposes 10 teachers from 4 institutions and 4 students from 3 institutions were omitted.

the basic competences for teachers had been implemented in their elementary institution teacher training. Table 2 gives an overview of the teacher and student characteristics of the subjects included in the sample.

2.2. Questionnaires for teachers and students

The questionnaire for teacher trainers assessed the educators' thoughts on, and experiences of, competency-based education and the extent to which working with competences has impacted on their instructional practices. The questionnaire for students had a similar purpose, but from the students' perspective. Here, the following question is central: how do final year elementary institution student teachers perceive the competency-based engagement and investments of the institution (for example, during practices in their classes, lessons or during on-the-job internships)?

The teacher questionnaire consisted of three parts. The first part gathered background information on the teacher and searched for the information which is listed in Table 2. The second part of the questionnaire investigated teachers' opinions and experiences with regard to the basic competences described in the decree, (1) in general, (2) in the institution and (3) in teaching practice (the items are presented in Table 4). Teachers had to indicate on a 5-point scale - 'agree', 'somewhat agree', 'I'm in doubt', 'somewhat disagree' and 'disagree' – whether or not they went along with the statements in each item. The third part concerned the 10 functional components of the basic competences during instruction and evaluation. For instruction, teachers had to indicate to what extent they give attention to each of the 10 functional components in (1) lectures, (2) during practical seminars, (3) during internships and (4) in assignments. Respondents had to indicate in a matrix for each of the components whether they use it (1) never/rarely, (2) occasionally or (3) often in each of the

Table 2
Background on the lecturers and student teachers in the sample.

Variable	Category	N
LECTURERS' SAMPLE ($N = 51$)		
Sex	Male	10
	Female	41
Teacher experience	< 5 years	21
	6 to 20 years	16
	> 20 years	14
Department(s), where one teaches	Only elementary teacher training (TT)	38
	Also pre-elementary and/or secondary TT	13
Teaches to	One year	17
	Two years	18
	1st, 2nd & 3rd year	15
School	School A	11
	School B	5
	School F	10
	School G	4
	School H	6
	School I	5
	School K	5
	School L	5
Function	Teacher of pedagogy	16
	(Domain knowledge) expert teacher	26
	Others	9
Instructor	Yes	48
	No	3
Coach of internships	Yes	47
	No	2
STUDENTS' SAMPLE ($N = 218$)		
Sex	Male	31
	Female	187
Year of birth	1986 (at time)	94
	1985	64
	1984	28
	<1984	32
School	School A	46
	School B	9
	School C	21
	School E	13
	School F	28
	School H	39
	School I	10
	School K	33
	School L	19
Student	Fulltime	209
	Parttime	9

Table 3
Rotated component matrix, teacher trainers' questionnaire (loadings between .300 and −.300 are italicized).

Items	Component			
	1	2	3	4
Competences in general				
Competences are prerequisites to constitute teacher training education	.828	*.109*	*.007*	*.083*
Competences need to be formulated by the government	.468	*−.158*	.545	*.139*
The competences in the decree are insufficiently concrete and operational (neg. question)	*−.155*	*−.017*	*−.053*	.934
Competences in the school				
The school has a clear policy concerning competences	.317	.709	*−.099*	*.218*
I feel involved in the policy-making concerning competences in this school	−.320	.731	*.142*	*−.221*
Competences are little the topic of discussion among faculty (neg. question)	*.099*	−.802	*.263*	*.084*
There are clear arrangements about who has to deal with which competences	*.283*	.657	.406	*.112*
There are clear arrangements about the way one has to deal with the competences	*.158*	.611	.405	*−.025*
Competences in teaching practice				
During internships the acquisition of the competences gets explicit attention	.876	*.177*	*−.049*	*−.096*
During internships the assessment of competences gets explicit attention	.850	*−.101*	*.069*	*−.238*
In particular, during internships students acquire the basic competences for teacher training	*.172*	*−.099*	−.751	*.136*

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 6 iterations.

Table 4
Rotated component matrix, students' questionnaire.

Items	Component	
	1	2
Competences are obviously part of the teacher training in this school	.357	.640
What competences are, is insufficiently discussed in lessons and internships (neg. question)	*.133*	−.755
During training the purpose of competences becomes clear	*.242*	.754
Contents discussed during instruction, are explicitly associated with competences	.705	*.234*
Teachers assign tasks aimed to acquire competences	.696	*.058*
During the coaching of internships, teachers explicitly refer to the competences	.678	*.005*
In criteria (tasks) and methods of evaluation (exams) competences get explicit attention	.599	*.146*

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 3 iterations.

instructional formats. If the teacher is not involved in one or more activities, s/he is asked to leave the column blank. The same is done for assessment methods in the curriculum, for five common methods of evaluation: (1) written closed book exam, (2) oral examinations, (3) on internship assessment forms, (4) during peer assessment, or (5) in the portfolio. If the teacher does not adopt one or more of these instruction/evaluation methods, s/he is asked to leave the column blank.

Although the student questionnaire is shorter, the structure and content are similar to the teachers' version. Part 1 on the student's background is compact and asks for the information listed in Table 2. The second part focuses directly on the institution's use of the basic components in the decree and how they have been translated in terms of the institution's policy-making (for the items, see Table 6). In Part 3, students are given a similar matrix as the teachers, related to the following practices: lectures, practical seminars, internship, assignments, assessment and portfolio. Students were asked to rate to which extent (never/rarely, occasionally or often) each of the components was represented in the formats of instruction or evaluation.

2.3. Factor analysis

Because the questionnaire was constructed based on the literature, the decree and on research interests, the reliability and the validity of the instrument was not a priori guaranteed. Hence, an exploratory factor analysis was run in order to reduce data into patterns of responses and to avoid single item use for analysis. Principal component analysis was run using SPSS, with a Varimax rotation with Kaiser Normalization. The criterion of eigenvalues above 1 was used to withhold the factors, in combination with the scree plot.

For the teacher questionnaire, four components (with eigenvalues >1) tend to explain 70.35% of the variance, with eigenvalues above 1.2. Factors 1 and 2, each explain a similar 25-23%; factors 3 and 4 respectively 12 and 10% of the variance. The inclusion of Factor 4 can be subject to discussion; although eigenvalues are adequate, the scree plot tends to show a three factor solution. Because the cumulative percentage is still 10%, the four factor solution was used and the significance of the fourth factor was also explored. The interpretation of the factors is based on the item loadings, which need to be up .300 or below −.300 to be meaningful (see Table 3). With regard to the interpretation of the factor analysis, Factor 1 relates the constitution of competences in teacher education and government involvement, with explicit attention to the acquiring and assessment of competences during internship. Because the internship-items load particularly highly, the factor is called 'integration in internship'. What is important is that this factor loads negatively on involvement in institution policy concerning competences, suggesting that respondents with this pattern of answers display little engagement with competences at the program level, in particular with regard to the theoretical component of teacher training. In contrast, Factor 2 loads high on the policy items of the institution, the so-called 'policy-factor'. It seems that competences are an explicit policy concern, so that, for example, there are clear arrangements, involvement of faculty and debate on the implementation of competences in the program. The third factor relates government involvement in competences with clear arrangements on how- and who-to-work with competences and explicitly states that competences are not only acquired during internships. As such, a suitable name may be 'integrated into the curriculum'. Finally, the fourth factor loads high on only one item, namely that the competences are insufficiently concrete and operational; the so-called 'inapplicable factor'. Interestingly, these components could be described as four approaches to the implementation of the basic competences in teacher education: (1) competences in internships, (2) competences through program policy, planning and debate, (3) competences in both theoretical and practical components of the curriculum, and (4) no competences in use because they are not applicable. The factors are added as regression variables in the data set and serve for analysis purposes in the results section.

For students, a similar procedure was used with respect to the constitution and integration of competences within the curriculum of the teacher education institution. Exploratory factor analysis generated 2 factors with eigenvalues above 1 which explained 50% of the total variance. Factor 1 clearly represents the formats in which competences are integrated within the curriculum (explaining 29% of variance), the so-called 'integration factor', whereas Factor 2 entails the definition and purposes of competences (and explains an additional 23% of variance), called the 'understanding factor'.

3. Results

The results section is divided in two parts, dependent on the point of perspective which is taken: the teachers' or the students' view. Firstly, each part discusses the teachers' and students' perceptions of competences in the institution. Additionally, the first section also describes teachers' perspective on competences in general and the use of the basic competences in their own practice. The second part of the results section elaborates further on the use of competences in practice, that is, as pursued by instructional and assessment methods in courses and, with regard to student teachers' internships, in teaching practice. 'Which competences are dominant in the curriculum?' and 'which teaching/evaluation methods serve the purpose of competence acquirement?' are two central questions in this section.

3.1. Teachers' results: differences in function and years of experience?

3.1.1. Competences in general, in the institution and in teaching practice

From the set of items that measure teachers' attitudes towards competences in general, within the institution and in teaching practice, four approaches to the implementation of the basic competences emerged for these data (see above, results of factor

Table 5
Lecturers' use of competences in their own practice, including (borderline) significant test results.

Question	N	Rarely N (%)	Occasion N (%)	Often N (%)	Differences
I use the competences explicitly to shape my teaching practices	50	1 (2.00)	10 (20.00)	39 (78.00)	/
Students are assigned tasks by me which explicitly aim to acquire competences	49	7 (14.29)	20 (40.82)	22 (44.90)	Experience[1] + function[2]
I explicitly discuss the content of the competences during my lessons or during my internship-coaching	50	7 (14.00)	20 (40.00)	23 (46.00)	(Experience[3] + function[4])°

$p < .05$; ° $p < .10$; Non-parametric test scores: 1: $X^2 = 6.51$, $p = .039$, experience: 2 > 3>1,; 2: Mann Whitney $U = 136.00$, $p = .042$*, function: P > E; 3: $X^2 = 5.07$, $p = .079$° (borderline), experience: 2 > 3>1; 4: Mann Whitney $U = 146.50$, $p = .082$° (borderline), function: P > E.

Table 6
Functional components during instruction and assessment from the teacher trainers' perspectives.

Component Teacher as…	Category	Lectures N (%)	Internship N (%)	Assignment N (%)	Portfolio N (%)	Written N (%)	Oral N (%)	Internsh N (%)
1. Guide to learning & development	Rarely (0)	0 (0.00)	0 (0.00)	1 (3.13)	5 (23.81)	0 (0.00)	5 (21.74)	1 (2.50)
	Occasion (1)	5 (12.20)	1 (2.33)	6 (18.75)	2 (9.52)	7 (21.88)	3 (13.04)	2 (5.00)
	Often (2)	36 (87.80)	42 (97.67)	25 (78.13)	14 (66.67)	25 (78.13)	15 (65.22)	37 (92.50)
Total		41 (100)	43 (100)	32 (100)	21 (100)	32 (100)	23 (100)	40 (100)
Mean		1.88	1.98	1.75	1.43	1.78	1.43	1.90
2. Educator	Rarely	7 (18.92)	0 (0.00)	10 (35.71)	6 (35.29)	14 (51.58)	9 (45.00)	1 (2.70)
	Occasion	12 (32.43)	4 (10.26)	8 (28.57)	3 (17.65)	7 (25.93)	4 (20.00)	1 (2.70)
	Often	18 (48.65)	35 (87.74)	10 (35.71)	8 (47.06)	6 (22.22)	7 (35.00)	35 (94.59)
Total		37 (100)	39 (100)	28 (100)	17 (100)	27 (100)	20 (100)	37 (100)
Mean		1.30	1.90	1.00	1.12	0.70	0.90	1.92
3. Subject expert	Rarely	3 (6.32)	1 (2.27)	4 (11.11)	5 (26.32)	5 (13.51)	9 (32.14)	2 (5.56)
	Occasion	6 (13.64)	7 (15.91)	10 (27.78)	4 (21.05)	2 (5.41)	0 (0.00)	3 (8.33)
	Often	35 (79.55)	36 (81.82)	22 (61.11)	10 (52.63)	30 (81.08)	19 (67.86)	31 (86.11)
Total		44 (100)	44 (100)	36 (100)	19 (100)	37 (100)	28 (100)	36 (100)
Mean		1.73	1.80	1.50	1.26	1.68	1.36	1.81
4. Organiser	Rarely	5 (12.50)	1 (2.44)	6 (20.69)	5 (35.71)	8 (29.63)	8 (44.44)	0 (0.00)
	Occasion	16 (40.00)	2 (4.88)	13 (44.83)	0 (0.00)	10 (37.05)	7 (38.89)	0 (0.00)
	Often	19 (47.50)	38 (92.68)	10 (34.48)	9 (64.29)	9 (33.33)	3 (16.67)	36 (100)
Total		40 (100)	41 (100)	29 (100)	14 (100)	27 (100)	16 (100)	36 (100)
Mean		1.35	1.90	1.14	1.29	1.04	0.72	2.00
5. Innovator & researcher	Rarely	5 (12.50)	4 (9.76)	2 (6.25)	1 (5.56)	9 (36.00)	4 (21.05)	3 (8.11)
	Occasion	21 (52.50)	13 (31.71)	10 (31.25)	1 (5.56)	8 (32.00)	6 (31.58)	9 (24.32)
	Often	14 (35.00)	24 (58.54)	20 (62.50)	16 (88.89)	8 (32.00)	9 (47.37)	25 (67.57)
Total		40 (100)	41 (100)	32 (100)	18 (100)	25 (100)	19 (100)	37 (100)
Mean		1.23	1.49	1.56	1.83	0.96	1.26	1.59
6. Partner of parents	Rarely	18 (51.43)	14 (36.84)	19 (67.86)	6 (42.86)	19 (79.17)	14 (73.68)	13 (39.39)
	Occasion	12 (34.29)	20 (52.63)	7 (25.00)	6 (42.86)	2 (8.33)	4 (21.05)	12 (36.36)
	Often	5 (14.29)	4 (10.53)	2 (7.14)	2 (14.29)	3 (12.50)	1 (5.26)	8 (24.24)
Total		35 (100)	38 (100)	28 (100)	14 (100)	24 (100)	19 (100)	33 (100)
Mean		0.63	0.74	0.39	0.71	0.33	0.32	0.85
7. Member of a teaching team	Rarely	14 (36.84)	4 (10.53)	13 (43.33)	3 (25.00)	18 (78.26)	12 (70.59)	5 (15.15)
	Occasion	17 (44.74)	21 (55.26)	12 (40.00)	6 (50.00)	4 (17.39)	4 (23.53)	9 (27.27)
	Often	7 (18.42)	13 (34.21)	5 (16.67)	3 (25.00)	1 (4.35)	1 (5.88)	19 (57.58)
Total		38 (100)	38 (100)	30 (100)	12 (100)	23 (100)	17 (100)	17 (100)
Mean		0.82	1.24	0.73	1.00	0.26	0.35	1.42
8. Partner of external parties	Rarely	22 (62.86)	13 (34.21)	14 (46.67)	6 (46.15)	20 (83.33)	14 (77.78)	11 (34.38)
	Occasion	9 (25.71)	21 (55.26)	11 (36.67)	6 (46.15)	1 (4.17)	4 (22.22)	14 (43.75)
	Often	4 (11.43)	4 (10.53)	5 (16.67)	1 (7.69)	3 (12.50)	0 (.00)	7 (21.88)
Total		35 (100)	38 (100)	30 (100)	13 (100)	24 (100)	18 (100)	32 (100)
Mean		0.49	0.76	0.70	0.62	0.29	0.22	0.88
9. Member of educational community	Rarely	17 (47.22)	11 (28.95)	17 (60.71)	5 (38.46)	17 (70.83)	14 (77.78)	10 (32.26)
	Occasion	11 (30.56)	21 (55.26)	9 (32.14)	4 (30.77)	6 (25.00)	3 (16.67)	15 (48.39)
	Often	8 (22.22)	6 (15.79)	2 (7.14)	4 (30.77)	1 (4.17)	1 (5.56)	6 (19.35)
Total		36 (100)	38 (100)	28 (100)	13 (100)	24 (100)	18 (100)	31 (100)
Mean		0.75	0.87	0.46	0.92	0.33	0.28	0.87
10. Culture participant	Rarely	8 (20.00)	10 (26.32)	2 (6.06)	4 (26.67)	14 (53.85)	7 (33.33)	8 (25.00)
	Occasion	19 (47.50)	13 (34.21)	16 (48.48)	7 (46.67)	8 (30.77)	8 (38.10)	12 (37.50)
	Often	13 (32.50)	15 (39.47)	15 (45.45)	4 (26.67)	4 (15.38)	6 (28.57)	12 (37.50)
Total		40 (100)	38 (100)	33 (100)	15 (100)	26 (100)	21 (100)	32 (100)
Mean		1.13	1.13	1.39	1.00	0.62	0.95	1.13

analysis). The first pattern associates competences to internships, the second connects competences with the institution's policy and program planning, the third relates competences with the entire curriculum and the fourth considers competences as insufficiently concrete and applicable. A second step would be to find out whether different groups take on different approaches to the implementation of the basic competences. Therefore, variance analysis on the factor regression scores was used. Because the teachers' sample is too small to reliably test for differences between institutions in teacher trainers' responses, univariate GLM analyses

are only run for experience (<5 years, 5–20 years and >20 years) and function (pedagogue versus subject expert teacher)[2].

However, neither function nor years of experience on the part of the teacher trainers tended to produce differences in the first three approaches to the implementation of the basic competences. This suggests that, in general, pedagogues and experts and less and more experienced teacher trainers have similar approaches to the implementation of the basic competences, either in internships, through the institution's policy or in terms of being integrated into the (entire) curriculum. Possibly, other institution- or teacher-related variables could serve for explanatory purposes in explaining these teachers' approaches to the implementation of competences. One exception is the inapplicable factor, where both experience and function tend to discriminate with medium to large effect sizes. However, the more experienced the teachers are, the more convinced they are about the insufficient concreteness and operational nature of the basic competences introduced by decree ($F(2,36) = 3.58$, $p = .036^{*}$, $\eta^2_p = .135$, comparison: most years of experience (>20) > least experience (>5)). Moreover, subject expert teachers are more persuaded as to the inapplicability of the competences compared with their pedagogue-colleagues ($F(1,39) = 3.98$, $p = .053(^{*})$,$\eta^2_p = .093$, comparison: expert teachers > pedagogues).

With respect to the institution's policy towards competences, the items that asked for the presence of a competence matrix (typically constructed by the institution), revealed interesting findings. About 80% ($N = 40$) of the teachers stated that there is a competence list/matrix/profile with concrete and observational competences, which they agree to be practicable ($M = 4.03$; $SD = 0.85$). However, if the answers are categorised for each institution, agreement is difficult to find. Only two institutions (of eight in total) were unanimous about the institution having a list, matrix or profile of competences. The other teachers within the same institution tended to disagree with regard to the institution (not) having such a tool. This implies that in 3 out of 4 schools, teachers do not all know of – and consequently do not all use – the list, matrix or profile of competences that have been constructed for use within their school. Interestingly, there were no institutions with exclusively negative answers (implying that every institution has a competence matrix/profile for its own use).

In addition, three items attempted to measure the teachers' use of competences in his/her own practice on a 3-point scale (rarely, occasionally, often; see Table 5). Interestingly, 78% of the teacher trainers stated that often they explicitly use the basic competences in the decree to shape their teaching practice; in fact, 98%, if 'occasionally' or 'often' are taken together; a result that, without doubt, could be considered satisfactory by the educational authorities in Flanders. However, if questions become more detailed, focusing on different teaching practices, the number of 'rarely/never' users grows. For example for 'assignments aimed at competences' (item 2) and 'discussing competences during lectures/coaching' (item 3), with regard to teaching practices which everybody in the sample is involved in, the proportion of rarely/never users has grown to almost 15%, or more than half of the teacher trainers if 'occasionally' is added. This trend continues, if the different competences and specific methods of instruction and assessment are studied (see below). In order to detect differences between groups of teachers, non-parametric tests were run to study the effects of years of experience (Kruskal–Wallis test) or function (Mann–Whitney test). Both for 'assignments aimed at competences' and 'discussing competences in lectures/during coaching', experience and function tended to generate (borderline) significant scores, with the middle group of experience surpassing respectively the most experienced group and the least experienced groups of teachers, and the pedagogues more often adopting competences to their tasks and lectures/coaching than their colleagues who were subject expert lecturers.

3.1.2. 10 Basic competences in relation to instructional and assessment methods

The ten basic competences in the decree are described in terms of functional components, together with all-embracing attitudes, which make up three responsibilities on the part of the teacher: for the learner, for the institution and for (educational) society. Since the program has to be based on the competences in the decree, each competence has to be represented in the curriculum and the curriculum is made up of diverse instructional and evaluation methods, teachers were required to indicate in matrixes for each competence in the rows and each method of instruction/evaluation in the columns, whether they used it rarely (0), occasionally (1) or often (2). Table 6 displays the responses for instruction and assessment practices, Fig. 2 provides a graphical representation of the competence uses by instructional or assessment methods. Please note, that if a method was not applied in the curriculum, respondents were asked to leave the item open in order to be able to make a distinction between 'rare uses' and 'not applicable', as some methods might not be adopted by the responding teacher. However, the total numbers between the 10 competences also fluctuate to some extent, suggesting that if the functional component was not aimed for with a particular method, that the answer would have been left open, which may mask more actual 'rarely/never' answers in responses (which might have lowered mean scores). Hence, caution is warranted.

We learn that the functions Guide to learning and development and the Subject expert are most often used in instruction and assessment, whereas the competences related to the teacher as Partner of parents, Partner of external parties and Member of the educational community, get least attention during both instructional and assessment methods; on average 'rarely' to 'occasionally'. In fact, very poor rates of use are noted for these competences in terms of both oral and written examinations. Interestingly, the competences 'teacher as organiser' and 'teacher as educator' show peaks during teaching practice and internship assessment. Due to the fact that the competence 'teacher as innovator and researcher' emphasizes the importance of teachers as reflective practitioners, this competence scores high in use in portfolio assessment; a method typically being featured in the literature with reflection enhancing goals and outcomes (Tillema & Smith, 2000; Korthagen & Vasalos, 2005).

Unfortunately, due to limited numbers of completed rows/columns of responses in the matrix, differences between pedagogues and subject teacher experts, or more and least experienced teacher trainers, could not be identified reliably.

3.3. Students' perspective: differences between institutions?

3.3.1. Competences in the institution

From the items in the questionnaire, aiming to discover the institution's policy and enactment on the basic competences in the decree from the students' point of view, two components underlying the responses of students emerged; one relates to the integration of the competences in the curriculum, the other is about students' clearness on and understanding of those competences. Logically, institution differences are considered important. In contrast to the teachers' sample, students' sample sizes are larger

[2] Originally, sex as an independent variable was also tested, but proved to be non-significant.

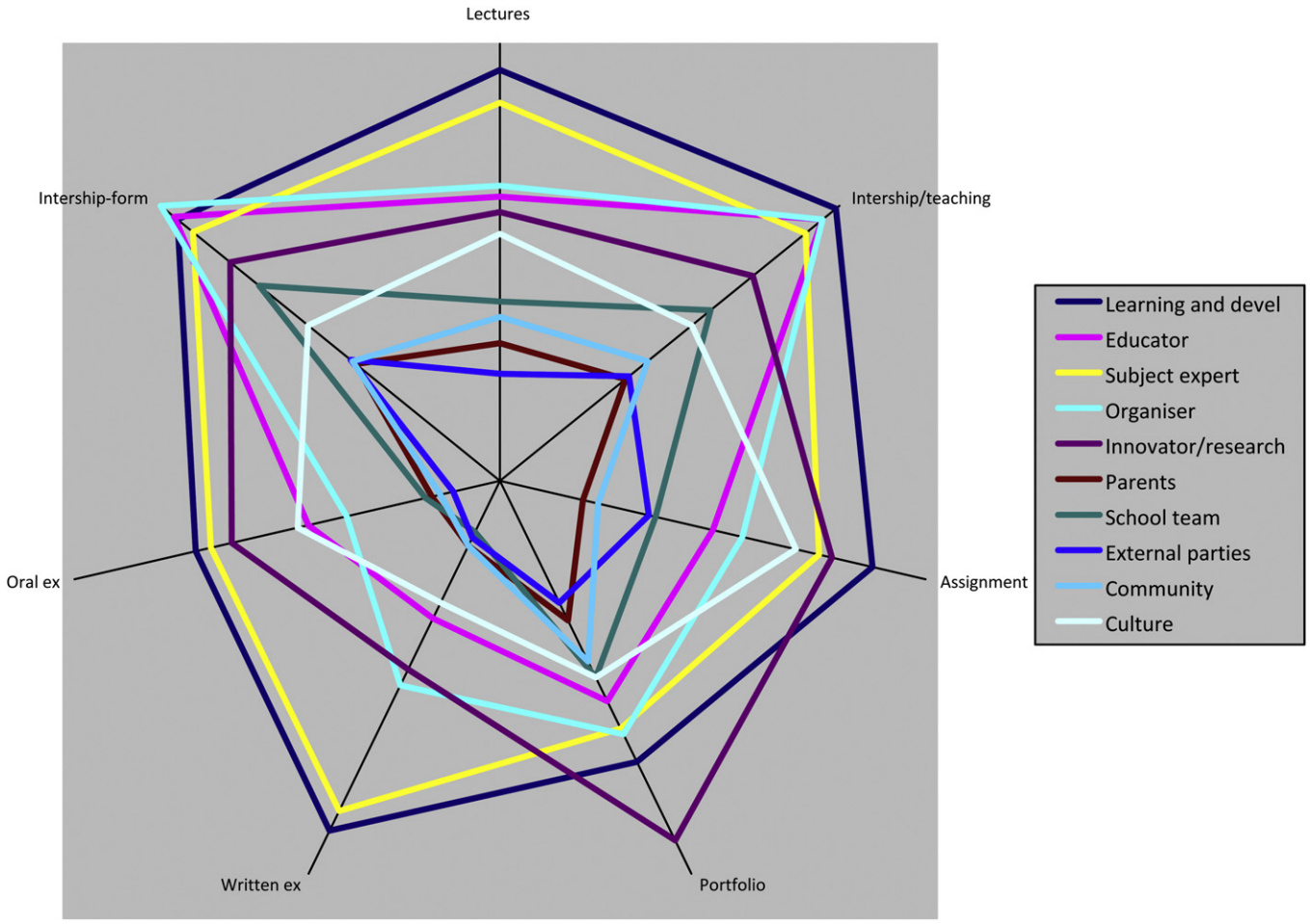

Fig. 2. The use of the 10 basic competences for different methods of instruction and evaluation from the teacher trainers' perspectives.

(at least 9 students in each school) and variance analysis was processed[3]. For both factors, integration and the understanding of competences, results demonstrated significant effects with considerable effect sizes, suggesting that large institution differences exist in students' understanding of the basic competences ($F(8,206) = 3.48$, $p = .001^*$, $\eta^2_p = .119$) and the institution's integration of competences in the curriculum as perceived by students ($F(8,206) = 3.26$, $p = .002^*$, $\eta^2_p = .112$).

In addition, many institutions work with a competence matrix, which has been confirmed by the teachers' sample (80%). However, almost 85% of the students did not know whether the institution adopted such a tool to construct its curriculum; a result on the basis of which questions should be raised with regard to schools' transparency in terms of working on competences. On the other hand, the majority of students (about 70%) felt that teachers often used the basic competences to shape their teaching and the coaching of student teachers during internships (27% occasionally; 3% rarely). However, non-parametric tests show, both for students' responses on 'school having a competence list/matrix/profile' ($df = 8$; $X^2 = 25.06$; $p = .001^*$, between 100% (max) and 63% (min) of students not knowing about this tool) and 'teachers use of competences in teaching' ($df = 8$; $X^2 = 19.00$; $p = .015^*$, $M_{min} = 1.32$ to $M_{max} = 1.90$ (about 30% discrepancy for 3-point scale from 0 to 2)), significant associations for the variable 'institution', pinpointing possible differences in approach between teacher education institutions.

3.3.2. 10 Basic competences in instruction and assessment

How the competences translate to instruction and evaluation practices and which methods serve the purpose of competence acquirement to what extent, are studied through the 10 basic competences described in the decree. An overview is presented in Table 7 and Fig. 3.

A remarkable finding is that the 'teacher as Subject expert' is the number one perceived competence in use in instruction and evaluation practices according to students, followed by the Guide in learning and development, and thereafter, by the Educator and Organiser (see Table 8). Although compared to teacher trainers' perceptions the average scores are higher, the same three competences of which use tended to be poorest were found: Partner of external parties, Partner of parents, and Member of educational community, the latter offering the lowest score (see Tables 6 and 7). Interestingly, the students' perceptions of the use of the different competences are more centred (ranging from 0.66 to 1.90), compared to the teachers' sample (ranging from 0.22 to 1.98). The teacher trainers' picture shows lines across the whole range of use on the scales (from minimum to maximum), implying large variations in use between different competences, and shapes tend to be more irregular, suggesting that differences in competence use are

[3] Originally, also sex and age of student teachers were considered as independent variables. however, these proved to be insignificant.

Table 7
Functional components during instruction and evaluation from students' point of view.

Component Teacher as…	Category	Lessons N (%)	Practica N (%)	Internsh.N (%)	Assignm.N (%)	Evaluation N (%)	Portfolio N (%)
1. Guide to learning & development	Rarely	13 (7.98)	11 (8.09)	2 (1.17)	15 (9.04)	28 (16.97)	12 (9.23)
	Occasion	76 (46.63)	52 (38.24)	13 (7.60)	81 (48.80)	68 (41.21)	48 (36.92)
	Often	74 (45.40)	73 (53.68)	156 (91.23)	70 (42.17)	69 (41.82)	70 (53.83)
Total		163 (100)	136 (100)	171 (100)	166 (100)	165 (100)	130 (100)
Mean		1.37	1.46	1.90	1.33	1.25	1.45
2. Educator	Rarely	16 (10.06)	19 (14.39)	2 (1.18)	40 (25.16)	30 (19.11)	17 (13.60)
	Occasion	81(50.94)	57 (43.18)	20 (11.76)	60 (37.74)	75 (47.77)	51 (40.80)
	Often	62 (38.99)	56 (42.42)	148 (87.06)	59 (37.11)	52 (33.12)	57 (45.60)
Total		159 (100)	132 (100)	170 (100)	159 (100)	157 (100)	125 (100)
Mean		1.29	1.28	1.86	1.12	1.14	1.32
3 Subject expert	Rarely	4 (2.50)	12 (8.96)	2 (1.19)	8 (4.94)	5 (3.05)	9 (6.98)
	Occasion	27 (16.88)	42 (31.34)	20 (11.90)	40 (24.69)	21 (12.80)	36 (27.91)
	Often	129 (80.63)	80 (59.70)	146 (86.90)	114 (70.37)	138 (84.15)	84 (65.12)
Total		160 (100)	134 (100)	168 (100)	162 (100)	164 (100)	129 (100)
Mean		1.78	1.51	1.86	1.65	1.81	1.58
4. Organiser	Rarely	32 (20.25)	15 (11.19)	3 (1.79)	25 (15.53)	38 (24.52)	19 (14.84)
	Occasion	82 (51.90)	56 (41.79)	17 (10.12)	73 (45.34)	66 (42.58)	54 (42.19)
	Often	44 (27.85)	63 (47.01)	148 (88.10)	63 (39.13)	51 (32.90)	55 (42.97)
Total		158 (100)	134 (100)	168 (100)	161 (100)	155 (100)	128 (100)
Mean		1.08	1.36	1.86	1.24	1.08	1.28
5. Innovator & researcher	Rarely	30 (18.99)	23 (17.83)	4 (2.38)	11 (6.79)	37 (23.87)	10 (7.75)
	Occasion	84 (53.16)	58 (44.96)	43 (25.60)	78 (48.15)	75 (48.39)	56 (43.41)
	Often	44 (27.85)	48 (37.21)	121 (72.02)	73 (45.06)	43 (27.74)	63 (48.84)
Total		158 (100)	129 (100)	168 (100)	162 (100)	155 (100)	129 (100)
Mean		1.09	1.19	1.70	1.38	1.04	1.41
6. Partner of parents	Rarely	64 (40.76)	60 (46.88)	14 (8.38)	56 (34.78)	71 (47.02)	36 (29.27)
	Occasion	78 (49.68)	52 (40.63)	78 (46.71)	71 (44.10)	52 (34.44)	49 (39.84)
	Often	15 (9.55)	16 (12.50)	75 (44.91)	34 (21.12)	28 (18.54)	38 (30.89)
Total		157 (100)	128 (100)	167 (100)	161 (100)	151 (100)	123 (100)
Mean		0.69	0.66	1.37	0.86	0.72	1.02
7. Member of a teaching team	Rarely	53 (34.42)	50 (39.06)	9 (5.42)	42 (27.10)	70 (46.67)	37 (30.58)
	Occasion	76 (49.35)	54 (42.19)	40 (24.10)	75 (48.39)	54 (36.00)	43 (35.56)
	Often	25 (16.23)	24 (18.75)	117 (70.48)	38 (24.52)	26 (17.33)	41 (33.88)
Total		154 (100)	128 (100)	166 (100)	155 (100)	150 (100)	121 (100)
Mean		0.82	0.80	1.65	0.97	0.71	1.03
8. Partner of external parties	Rarely	52 (33.77)	52 (41.27)	20 (12.20)	41 (26.45)	66 (44.30)	34 (28.57)
	Occasion	79 (51.30)	56 (44.44)	71 (43.29)	82 (52.90)	60 (40.27)	49 (41.18)
	Often	23 (14.94)	18 (14.29)	73 (44.51)	32 (20.65)	23 (15.44)	36 (30.25)
Total		154 (100)	126 (100)	164 (100)	155 (100)	149 (100)	119 (100)
Mean		0.81	0.73	1.32	0.94	0.71	1.02
9. Member of educational community	Rarely	51 (33.12)	59 (46.83)	32 (19.75)	53 (35.10)	63 (42.28)	44 (36.36)
	Occasion	78 (50.65)	47 (37.30)	64 (39.51)	69 (45.70)	62 (41.61)	47 (38.84)
	Often	25 (16.23)	20 (15.57)	66 (40.74)	29 (19.21)	24 (16.11)	30 (24.79)
Total		154 (100)	126 (100)	162 (100)	151 (100)	149 (100)	121 (100)
Mean		0.83	0.69	1.21	0.84	0.74	0.88
10. Culture participant	Rarely	40 (25.48)	33 (25.00)	26 (15.57)	32 (19.75)	48 (30.97)	41 (32.54)
	Occasion	79 (50.32)	64 (48.48)	66 (39.52)	65 (40.12)	70 (45.16)	45 (35.71)
	Often	38 (24.40)	35 (26.52)	75 (44.91)	65 (40.12)	37 (23.87)	40 (31.75)
Total		157 (100)	132 (100)	167 (100)	162 (100)	155 (100)	126 (100)
Mean		0.99	1.02	1.29	1.20	0.93	0.99

more dependent on the instructional or assessment method that is used (see Figs. 2 and 3). In contrast, students' perceptions on the use of the different competences vary less with regard to the extent to which they are adopted in the curriculum and are more uniform across methods of instruction and assessment. Interestingly, compared to the teachers' responses, students are more optimistic about the use of all competences during teaching practice or internships (all scores are above 1.21 (more than occasionally) to 1.90 (often), while for teachers, they are: 0.73 (not even occasionally) to 1.98 (often)).

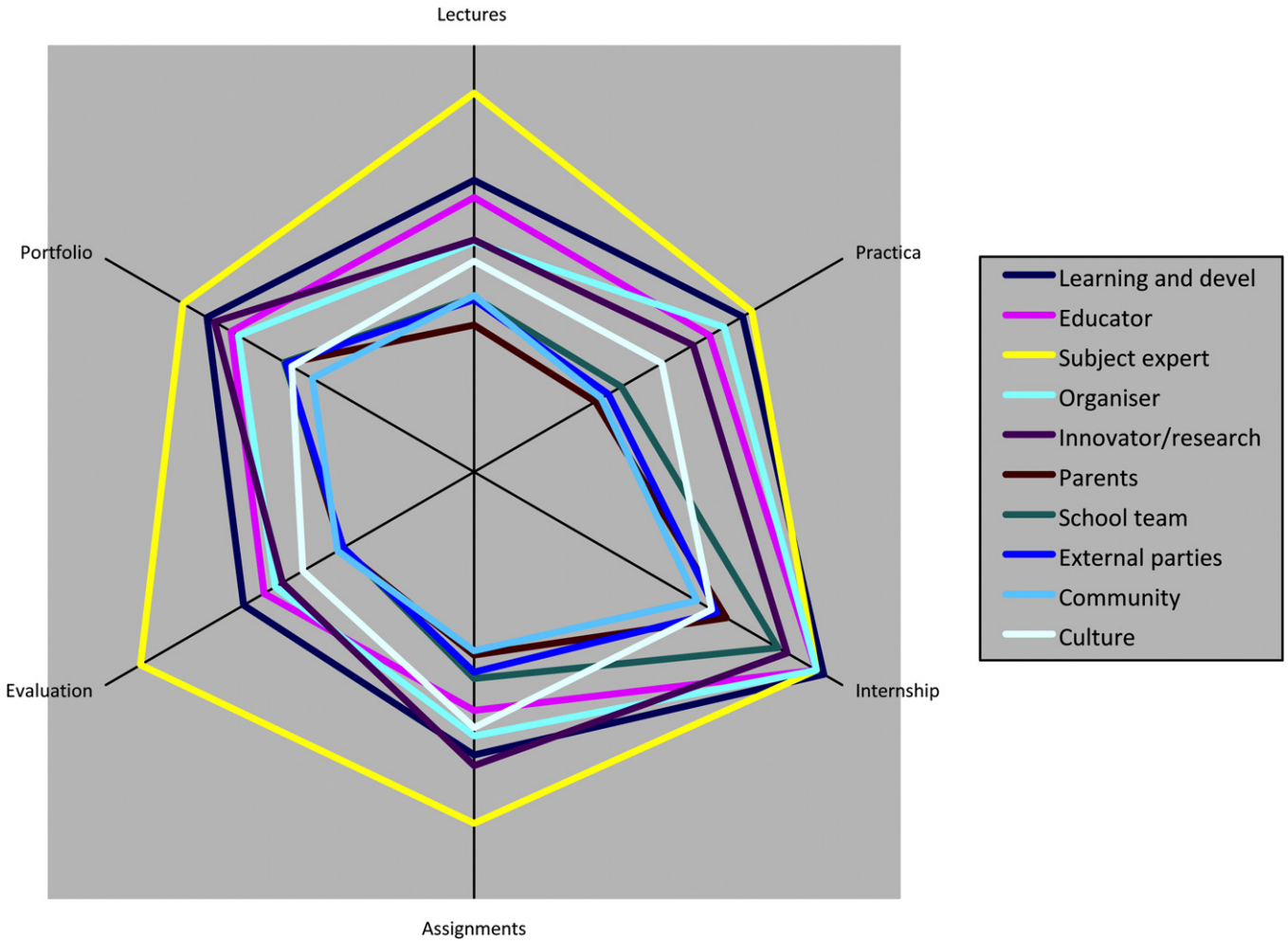

Fig. 3. The use of the 10 basic competences for different methods of instruction and evaluation from the students' perspective.

Table 8
Descriptive Statistics for each competence (over instructional formats) and each instructional format (over competences) according to students, including univariate anova (GLM)-analysis for schools.

Competences	A	M_{min}	M_{max}	*Df*	*F*	*p*	η_p^2
1. Guide to learning and development	.66	1.38	1.58	4, 130	1.31	.268	.039
2. Educator	.79	1.29	1.46	4, 129	.61	.654	.019
3. Subject expert	.66	1.63	1.76	4, 129	.65	.632	.020
4. Organiser	.73	1.28	1.47	4, 129	.91	.459	.028
5. Innovator and researcher	.72	1.24	1.38	4, 129	.48	.751	.015
6. Partner of parents	.80	.83	1.07	4, 128	.95	.475	.034
7. Member of a teaching team	.78	.92	1.21	4, 129	1.75	.144	.051
8. Partner of external parties	.78	.80	1.08	4, 127	1.36	.250	.041
9. Member of the educational community	.86	.55	.96	4, 121	2.58	.041*	.079
10. Culture participant	.84	.72	1.34	4, 126	5.36	.001*	.145
Instructional formats							
Lessons	.79	.94	1.21	4, 123	1.52	.200	.047
Practical sem.	.86	.91	1.31	4, 107	3.08	.019*	.103
Internships	.82	1.48	1.76	4, 127	2.32	.060(*)	.068
Assignments	.83	1.09	1.23	4, 124	.52	.720	.017
Evaluation	.89	.86	1.19	4, 126	1.44	.226	.044
Portfolio	.91	.93	1.43	4, 104	4.76	.001*	.155

°3-point scale; because matrixes were not completed by everyone in the sample and numbers within the matrix fluctuated, only those schools were retained which had a number of students above 10 for every independent variable above (i.e. a total of 5 schools met this criterion).

For the students' sample, differences between institutions were investigated for each competence in the matrix (row averages are used) and for each instructional/evaluation method (column averages). Before averaging, internal consistencies were calculated, and reliability tended to be secured (all Cronbach alphas were above .66) (see Table 8). Moreover, institution differences are shown for Culture participant and Member of the educational community, with a deviation of 20–25% between minimum and maximum mean scores for institutions. With respect to the methods used in the curriculum, (borderline) significant institution differences were found for the practical seminars, (internship) and portfolio.

4. Conclusions and discussion

The decree has been in effect for more than ten years. However, do institutions and, in particular, teachers suit the action to the word? Is it an illusion, or has it become a reality? Results show that competence-based education is still a work in progress, with important differences between separate competences, methods of instruction and evaluation, groups of teachers and institutions.

4.1. Illusion or reality: different approaches to the implementation of competences

Although the decree obliges each institution to pursue the basic competences and explicitly states that the basic competences

should be integrated in both the theoretical and practical components of the teacher training curricula, teacher trainers' responses reveal approaches to the implementation of competences that are inconsistent with these premises. In fact, only the approach 'integration in the curriculum' entails competences during both theoretical courses and teaching practice, with clear arrangements on how to and who-to-implement-which competences. The 'policy-factor' may provide the appropriate means to come to these arrangements for several respondents, who concomitantly tend to feel involved in the institution's policy-making. On the other hand, the one-sided approach 'integrated in teaching practice' is in conflict with the prescriptions of the decree that perceives competences as the ends of the entire teacher training program, and not just as the outcomes of pre-service teaching practice during internship. Teacher trainers adopting this approach usually feel little involved in the institutions' policy-making and curriculum planning. Finally, when it comes to the use of the basic competences in practice, the least 'active' – and as a plausible consequence, ineffective – group of respondents in the sample are, the teacher trainers who consider the basic competences to be insufficiently concrete and applicable. For the latter, important differences were found between groups of teacher trainers in terms of years of experience and function, with the most experienced teacher trainers and subject expert lecturers being more persuaded of the inapplicability of the basic competences than the least experienced teachers and their colleagues-pedagogues. However, it remains unknown whether these approaches to competence implementation are also institution-specific. Possibly, the extent to which each of these approaches is adopted depends on the school context (e.g. composition of teaching staff (experience, function, roles), collegiality and team work among staff, involvement of teachers in and transparency of policy-making, school culture). As a consequence, future research is needed to gather more teacher trainer data in order to reliably test for differences between institutions in approach to the implementation of the basic competences. In addition, the adoption of qualitative methods such as interviews and observations may serve the complementary purpose of obtaining a more in-depth understanding of the basic competences as they are understood, pursued and enacted upon in practice by teacher trainers.

4.2. Differences between competences

Although the decree does not differentiate between competences and considers each competence as an important goal of teacher education, important differences between competences are found in teaching practice. Whereas some competences are clearly present in the institutions' policies and practices, others are poorly represented. The teacher as a Guide to learning and development and the teacher as a Subject expert are the competences in the decree which are most often pursued in the teacher education curriculum. On the other hand, the teacher as Partner of parents, Partner of external parties and Member of the educational society were only 'rarely' to 'occasionally' put forward in terms of instruction and evaluation. Independent of the prescriptions in the decree, which give equal importance to the competences, they should all be acquired in order to function as a beginning teacher, whereas educational practitioners in teacher education tend to give priority to some competences over others. Hence, an implicit hierarchy has been created with several competences not being fully acquired by the end of teacher training as a possible consequence. However, whether differences in use also generate differences in competence performance at the end of teacher education and in the later life of the student remains an open question. For example, a qualitative investigation into student teachers' enactment on the competences by the end of the teacher education process and during their first year of teaching practice, may reveal insights into how student teachers have understood, adopted and – further – developed these competences in practice. In addition, should future quantitative research demonstrate that competence performance differs between student teachers across institutions, priorities in use will have had severe consequences and should be carefully (re)considered by teacher educators.

4.3. Differences among methods of instruction and evaluation

In general, teachers claim to work on competences, both during lessons and internships. These 'working on' ranges from simply mentioning the official competences during lectures to the construction of competency-based assignments set up to achieve one (or more) predetermined competences. Both students and teachers suggested that more importance is given to competences in instruction than in evaluation. In fact, the – reliable – measurement of competences is an important problem due to its holistic approach, job-related nature and the integration of knowledge, skills and attitudes (Tigelaar, Dolmans, Wolfhagen, & van der Vleuten, 2005). As a solution, alternative assessment methods such as portfolios and case-based assessments, provide techniques that allow for the use of authentic, complex or ill-structured problem solving techniques associated with professional contexts and situations, where competent professionals need to (re)act (Birenbaum, 1996; Davies & LeMahieu, 2003; Sambell, McDowell, & Brown, 1997). However, whether or not these methods are able to adequately and reliably serve the purpose of competence assessment, is a question that still needs to be empirically addressed. At the moment, triangulation or the use of multiple evaluations provides the best perspectives in order to grasp the complex entanglement of student teachers' knowledge, skills and attitudes in several, professionally-related ways (Dochy, Gijbels, & Segers, 2006). For example, a combination of portfolio assessment, observations of teaching practice, simulations, case-based exams or paper-and-pencil tests may be needed to get a comprehensive grip on the competences for which student teachers are trained. Assessment centres could prove to be an interesting configuration allowing such a multi-method evaluation of competences to become real.

4.4. Central position of internships in a competence-based curriculum

An important finding in the present study is the central position of internships in elementary institution teaching practice in terms of the implementation of a competence-based curriculum. Obviously, learning-by-doing is an important source of learning that has been clearly demonstrated since Dewey (1999, translation). In fact, any student teacher will tell you that they learned the most from their student teaching experience during teacher education and that research on teacher learning supports the view that learning experiences in teaching practice can be very powerful (Putman & Borko, 2000). It is logical that, especially within teaching practice, the integrated use of knowledge, skills and attitudes is needed in order to deal with job-related problems and issues, which is, in essence, what competence-based education aims for. As such, the integration of competences in students' teaching practice needs to be encouraged. On the other hand, what successful teacher training would want to see in internship experience is evidence of the precepts of teacher education programs (Putman & Borko, 2000). As a consequence, competences should be a concern of theoretical courses as well, as was intended by the decree of the Flanders Department of Education. With respect to acquiring the knowledge

aspect of competences, these courses could be the appropriate means to this end. As such, vivid examples of real-life teaching experiences and authentic tasks help to relate theory to practice for competences to develop (Loyens & Gijbels, 2008). The inverse association of practice to theory should 'happen' by means of (stimulated) reflection when student teachers are coached during internships by their teacher trainer lecturers (Korthagen & Vasalos, 2005).

4.5. Differences among groups

Teachers' engagement with, and practices based on, teacher competences is varied with answers being widespread and sometimes even contradictory (e.g. with respect to the use of competence matrixes in institutions). Although some differences between teachers are dependent on their years of teaching experience and the training they enjoyed at university prior to their academic teacher training (i.e. whether they are an expert in subject matter or an expert in educational sciences), the significance of these results tends to be limited in that it is not that often that significant differences are discovered through statistical analyses. However, if differences are shown, results usually demonstrate that pedagogues are more involved in competence-based education than their subject expert colleagues within teacher training. Similar findings apply for the least and middle experienced groups of teachers: they tend to be more involved and convinced of the applicability of competences than the group of most experienced lecturers who may be more reluctant to embrace educational change due to 'fin du carrière'-prospects (Sikes, 1992). Again, these results are occasionally detected, and caution for generalisation is warranted. As a consequence, more convincing results should be generated by large(r) replication studies and other teacher variables should be explored in order to discover differences in approaches to competence implementation.

In addition, the decree leaves autonomy to the institutions with regard to the implementation, attainment and assessment of the prescribed basic competences for teacher education. Therefore, the institution was hypothesised to be a differentiating factor, explaining differences in approaches to competences in the curriculum. However, due to the limited sample size, the significance of this factor could not be verified in terms of the teachers' results. Notwithstanding, the students' results were persuasive with significant test scores and (rather) high effect sizes. For example, differences between institutions tended to be apparent concerning the understanding and integration of competences in the respective programs. Moreover, also regarding the use of competences in teacher education, significant differences between schools were found. The same applies for some competences and instructional methods and assessment formats, for which the uses differed between separate institutions of teacher education. However, when minimum and maximum mean scores are compared, deviations are limited, usually ranging from 15% to 30%. As such, there are differences in the pace or extent of implementation. However, it is not that some institutions 'do' competences and others do not. An example is that no institution tends to lack a list, matrix or profile of competences, constructed by/for the institution, based on the prescribed competences in the decree. Consequently, every institution – perhaps because they have been obliged – tends to have competences as a matter of concern, policy and activity. However, whether (and to which extent) each of the teacher trainers in these higher education schools knows – and uses – these tools is questionable, for as teacher trainers of, on average, 3 out of 4 institutions are not unanimous about the existence of these tools at the institution. Interestingly, 85% of the students are not aware of the existence (and thus use) of this tool. Hence, a course of action might be needed in order to secure transparency for students in terms of the policy and implementation with regard to the delivery of competences in the institution.

Interestingly, students' results and teachers' results show marked similarities, which adds to the validity and generalisability of the present study. For example, the same components are given the greatest attention in instruction and evaluation, namely Subject expert and Guide to learning and development, though in the reverse order for teachers, as well as the components which are least aimed for in the curriculum. Moreover, students confirmed that internships are the methods/places where competences are most often acquired. This finding is consistent with teacher trainers' approach to the implementation 'integration in internships' and complies with the 'more-than-occasionally-to-often' use of all competences during internships, mentioned by both teacher trainers and students. On the other hand, some differences between students' and teacher trainers' responses on the competence use in instruction and evaluations are also indicated. An interesting finding in this respect is the poorer variability in students' responses, compared to those of teacher trainers. Due to larger sample sizes in the student group compared to the teacher trainers, with means being less sensitive to deviant opinions as a consequence, this may be a technical artefact. Another explanation may be that whereas a teacher trainer primarily considers his/her own practices as a reference point for responding to the questionnaire; students obtain an overall view of competences in their teacher education program, a view which may be more nuanced and moderate-minded than the teacher trainers' perspectives. Finally, a well-known artefact of teacher education is the note of optimism in novice teachers' hopes and aspirations. They think positively and hopefully about their teacher education and their prospective profession (Conway & Clark, 2003), with associated feelings of competence for the competences prescribed in the decree. Although building on these hopes and aspirations is a good thing for their professional development and engagement, this latter explanation raises questions about the validity and reliability of the students' results. Further research for which measures are not restricted to the stakeholders' perceptions (e.g. observations, documentary analysis, measurements of competence attainment), could provide useful prospects in this matter. In addition, the coherence between lecturers' and students' points of views could not be (statistically) verified in the present study, due to both limited sample sizes in the case of the lecturers' group and the absence of one or both parties in the data (for example for schools C, E & G). This limitation could be dealt within future, large(r)-scaled replication studies.

Although the current study presents the state of the art with regard to the implementation status of competences in elementary teacher education in Flanders, little criticism is evident of the ideology and philosophy of competences, both nationally and internationally. Besides two essential features - the integration of knowledge, skills and attitudes and its requirement to successfully solve job-related problems - little is known (from research) and much is believed. As such, there is the dominant belief in progression. Competence learning is an ongoing process of growth. However, is there a final point in development and/or can competences degenerate? Is it like learning how to walk or swim, that once the competence is learned, it cannot be unlearned or diminish in effectiveness? Inversely, is there a starting point – when is a teacher (starting to be) – competent? Moreover, how can we determinate that a competence has been 'learned'? How can job-relevant, integrated knowledge, skills and attitudes (with a holistic approach to students) be made operational in fragmented curriculum parts and how can it be reliably measured? Do we need norm-referenced criteria (as in former disputed practices in the US)

or criterion-referenced approaches to competence testing (Popham, 1984, 1986)? Which assessment methods can be used to reliably measure holistic competences? Moreover, how about the consequences of not achieving particular (levels of) competences, for students, for teacher education, for education? And last, but not least, what do we know about the effectiveness of competence-based education (and by which variables are we going to define 'effectiveness')? Many assumptions on effects have been made, however, have they also been achieved? For example, McNamara (1992) suggests that competence policies are expected to lead to improvements in the nature and quality of initial training and induction. However, do they serve this purpose? And, what about the difficulties of pinpointing universal teacher competences and the difficulties (and consequences) of competence testing (Popham, 1984, 1986)? Actually, what is the added value of a competence-based curriculum as opposed to a traditional – non-competence-based – curriculum for the teaching practice of student teachers? Are these competence-trained teachers more effective than their previously graduated colleagues in not (explicitly) competence-based education? This debate is at least as important for the competence-based story to become a success and will require additional, future research into the development, measurement and effectiveness of competences in and outside revived competence-based (teacher) education. This should be research that goes beyond the implementation status, which is the central aim of the current inquiry. Notwithstanding, the present study provides a starting point for further research and development in that successful implementation is a prerequisite for effectiveness.

Competences have the intention of closing the gap between education and labour, to bring together theory and practice and to prepare students for employability and lifelong learning; reasons which explain the attractiveness of the concept in initial training in higher education. Likewise, the educational government in Flanders has fallen for the charm of competences and has issued a decree related to professional profiles and basic competences in teacher education. The present study suggests, ten years after the decree was issued, that competence-based education is moving from the illusory to the reality state of implementation. Although important differences between competences, methods of teaching and assessment, groups of teachers and/or students have been found, the general impression is that all participants tend to 'talk the talk'. However, only a selection of teacher trainers are fully 'walking the walk' with regard to a limited set of competences. However, besides further implementation of competence-based teaching and complementary research on effectiveness, debate is necessary in order to go the distance that still has to be gone…

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